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Imane El Haouachim[1]
Kaoutara El Omari
Maria Bennani
Rachid Bekkali

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QUALITY APPROACH IMPLEMENTATION: HEALTHCARE PROVIDER'S SATISFACTION IN THE NATIONAL INSTITUTE OF ONCOLOGY (MOROCCO)

Abstract: *In developing countries, providing quality care remains a major challenge to gain trust in public hospitals. Consequently, the National Institute of Oncology (NIO) in Morocco has been engaged in a continuous quality process. This work aims to assess the healthcare providers' satisfaction with this process to identify improvement areas. It has carried out via a questionnaire using a non-probability sampling plan, and the data processed by IBM SPSS.*

87% of respondents confirmed that the approach adapts to the hospital context. 83% confirmed the creation of quality circles and are pleasantly surprised by its benefits which prompted 96% of them to recommend its generalization in all of the Moroccan's public hospitals

Keywords: *Quality approach, Public hospitals, Healthcare providers, Level of satisfaction*

1. Introduction

The Moroccan health system is made up of a public and a private sector. People with health insurance are allowed to choose among multiple healthcare providers within these sectors. Nevertheless, people with low income who benefit from RAMED (The RAMED medical cover, was established under Law 65-00 on medical assistance plan. It aims at guaranteeing the right to health to economically disadvantaged people who do not benefit from Health Insurance.) insurance "Régime d'Assistance MEDicale" go to public hospital because it's free of charge (Moroccan Ministry of health & World Health Organization, 2016).

Public hospitals are consequently overwhelmed by the strong demand of health care services from the poor population in addition to other problems of financing, governance and shortage of human resources (Boudak & Elouadi, 2020). Providing accessible, quality, secure and personalized care has become a real challenge for public hospitals. In addition to this, the quality approach implementation in hospital organizations is explicitly mentioned in the new Moroccan constitution of 2011 which stipulates in article 154 that "public services are subject to standards of quality, transparency, accountability, and responsibility" (Moroccan constitution, 2011).

The Ministry of Health history shows that the first experiences of quality approach implementation happened in 1990s when a process of improving quality of care and services was established in 5 Moroccan regions. Unfortunately, with the absence of a good strategy to generalize the successful approaches and to integrate the quality

[1] Corresponding author: Imane El Haouachim
Email: imane_elhaouachim@um5.ac.ma

management into the health services culture, these experiences were limited to a few sites with fragile sustainability; hence the initiative of the Ministry of Health to implement a comprehensive and integrated approach called "Quality competition" for health structures (Guetibi & El Hammoumi, 2015).

Like other public hospitals, the Ibn Sina Hospital Center in Rabat implemented in 2007 a quality management program focused on the continuous improvement process to be engaged in hospital accreditation and certification process. The key results of this approach were the certification of the children's hospital pharmacy as well as the pharmacy and laboratory of the Rabat Specialty Hospital. However, this approach encountered difficulties in terms of its sustainability and generalization to other health establishments (Salhi, 2014).

Besides, a study has shown that the quality policies launched are only generic speeches without an operational soul. In fact, the absence of patient orientation, the under-utilization of curative services, the strong resistance from hospital staff, the under-management, and the absence of a participatory approach make it very difficult to establish an effective and sustainable quality approach in public hospitals (Moroccan Ministry of Health, 2018b).

The failure to implement real quality procedures is also due to many other important factors such as the lack of the hospital management team's commitment (Hayo-Villeneuve, 2017), and the low quotient of agents per 1000 patients - 1.51 versus 4.45 which is the standard recommended by the World Health Organization (Moroccan Ministry of Health, 2018a). This is in addition to a very low level of staff involvement (Kirmi & Chahouati, 2019) and the lack of continuing training (Benaichi, 2019) and support measures (Barouch, 2018) have contributed to subpar outcomes.

Consequently, it's important to consider the previous experiences and to take into account the recommendations of the first and the second National Cancer Prevention and Control Plans (NCPCP) of the two time periods 2010-2019 and 2020-2029 respectively which emphasizes that quality assurance is essential to ensure the success of all cancer control activities(Moroccan of Health Ministry & Lalla Salma Foundation, 2019). A whole axis in the 2nd NCPCP has been reserved for quality assurance composed of 02 actions and 08 measures including the definition of the appropriate quality model for each strategic axis of the plan, namely prevention, early detection, treatment and palliative care. The NIO, in partnership with Lalla Salma Foundation, launched in 2018 a project to implement the quality approach in its various departments.

The implementation process was consensual and gradual and has already shown convincing positive results midway through (The NIO's quality unit report, 2021).

The quality conceptual model implemented was adapted to the hospital context and designed according to the available means as well as the expectations of healthcare providers and patients. In fact, the process started with a strategic preparation phase in which decision-makers organized several meetings aiming to define the vision, governing bodies, and process implementing plans. This step was followed by a study of national and international experiences made by quality experts who carried out a benchmark and proposed a draft quality model to hospital leaders. This model was subsequently discussed with all staff during training and involvement sessions organized before the project kick-off. All these actions encouraged and motivated health professionals to participate actively in this project, especially because they were involved in the design and development of the quality model.

The quality model was based on a combined approach between the continuous

improvement approach (Donabedian, 1983), the quality management system, and the integrated quality system.

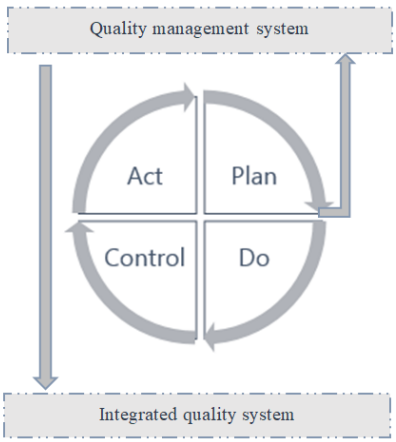

Figure 1. The NIO model for implementing the quality approach inspired by the famous Deming method (El Haouachim et al., 2022)

We recommended starting with quality circles by following Deming's Cycle "Plan-Do-Check-Act"(Chardonnet & Thibaudon, 2002) for the resolution of their service's issues.

Thus, over time, the teams take ownership of the continuous improvement approach and methodology and begin asking to move on to standardizing their quality practices with Quality Management System (QMS) recommended by the ISO 9000/9001 standard.

After mastering this step and preparing the procedure manual, we suggested switching to the integrated quality system which integrates other dimensions in terms of quality, safety and the environment.

The first results noted in the quality manuals of NIO departments already show several positive achievements on improving healthcare provider's practices as well as the communication and group dynamics. (NIO quality manuals, 2018-2021).

Thus, the production key performance indicators (KPI) of the departments involved in the quality process at the NIO have markedly improved, namely:

- The rate of infections in the digestive oncology surgery department, which rose from 30% in 2018 to 4.5% in 2021;
- The times for receiving chemotherapy cures in medical oncology departments also fell from 1 to 2 hours late in 2019 to less than an hour in 2021, with a reduction in the number of patients having chemotherapy alarming side effects from 336 patients in 2019 to 38 patients in 2021. (NIO quality manuals, 2018-2021).

Furthermore, an audit that was organized in June 2021 at the NIO demonstrated the success of the quality approach and the continuous healthcare provider's support for its sustainability (NIO quality audit report, 2021). However, to confirm these results, it's is primordial to conduct a study to assess the level of healthcare provider's satisfaction with the quality approach.

The purpose of this work is to assess accurately the healthcare providers' level of satisfaction regarding the quality approach implemented in their various departments in order to uncover any areas of concern and to propose solutions to ensure a sustainable level of the approach improvement.

The satisfaction assessment was based on questioning healthcare providers on their satisfaction level with the three stages of the quality approach implementation at the NIO, namely: 1) inputs of the project which refers to all the means put in place to make the project a success, whether financial, logistical, human, information and organizational; 2) the process of setting up the project which includes all the steps followed for the quality approach implementation at NIO, namely training, meetings, audits, studies ; 3) and finally the project outputs which refer to the results of the quality approach on all levels.

This paper is organized into the six following sections.

Section 1 which provides the introduction and describes the Moroccan quality implementation context, section 2 that presents some related works, section 3 that describes the methodology used, section 4 that advances the results, section 5 that discusses the main results.

We conclude this paper with a summary of this research and a presentation of some recommendations, directions, and best practices.

2. Background

A public hospital is a complex organization (Kervasdoué,2004). Its complexity is due to the departments compartmentalization, the user needs heterogeneity, the activities fragmentation, the strong formal logic of administration, the multiplicity of hospital stakeholders, and the absence of a vision to integrate the patient as a partner (Hayo-Villeneuve, 2017).

As a result of this complexity, the integration of the quality assurance in public hospitals seems very difficult since its success requires several necessary changes to better adapt it to the hospital context.

According to (Martineau, 2009), the first quality movement in hospitals were developed during the 1980s through two quality assurance principles: the first one is monitoring of activities and the second one is compliance with standards.

The quality assurance process constitutes the second phase of the quality concept integration in the hospital. Indeed, it identifies 03 main stages in the quality approaches evolution in the health sector: 1) Quality assessment that is an approach centered on the standardization of behaviors to be followed in pathological cases; 2) Quality assurance which is based on the malfunctions detection and the implementation of the necessary corrective actions; 3) Continuous improvement that is a part of a managerial logic which helps to provide a new global vision of hospital activities (Champagne et al., 2018).

Hospital quality is also defined by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) through 07 dimensions: user satisfaction, safety, competence, efficiency, continuity, accessibility and adaptation to environmental changes (Chahouati, 2021).

In Morocco, the Ministry of Health has set up a competition quality approach named Quality Competition which was organized from 2004 to 2010 to support the country's ambitious efforts in the decentralization and reform of health services, with an emphasis on improving continuous quality. Its effectiveness was assessed at the end of each edition of the competition and revised at the following edition. This quality competition began with 188 health structures during the 2007 edition to reach 665 in the 2010 edition.

The competition was based on six dimensions that a health system or a care structure must meet before being considered as a healthcare provider of very high quality care.

These dimensions are: 1) efficacy, which means the dispensing of care based on up-to-date and recognized scientific knowledge; 2) efficiency, which refers to the optimized use of available resources in order to avoid waste; 3) accessibility, which refers to the ability to provide timely and appropriate medical care to patients' needs; 4) acceptability, which requires that care must respond to patient and family needs, preferences, and social and cultural contexts ; 5) equity, which is the provision of essential health care to all regardless of age, gender, income, social status, ethnic origin, place of residence or other characteristics; 6) safety to deliver safe care in a way that minimizes risk and harm(German Health Practice, 2012).

Pursuant to these criteria, we can say that the quality concept in hospitals focuses mainly on the quality of care. However, the heterogeneity of the hospital stakeholders

allows us to identify several heterogeneous interpretations and definitions of quality. According to this, S.H -Villeneuve, 2017 identifies, through an empirical study, several perceptions and visions of quality in the hospital environment. He insists particularly on the instrumental vision of quality "Quality control", quality synonymous with evaluation, quality as a project approach, quality synonymous with certification and quality integrated into management through a process-based approach (Hayo-Villeneuve, 2017).

Another study in Algeria (Arab Maghreb Country) examined the healthcare provider's satisfaction with a quality project and showed that satisfaction varies depending on each profile.

Doctors more often use the terms adequate care, effectiveness, efficiency, and references. Their referral system is closely linked to technical care. Caregivers, all ranks combined from nursing assistant to head nurse, speak more of comfort, working method, reception, and hygiene which refers to the relational aspects and acts of daily life. Biologists, for their part, use the terms reliability, precaution, safety, vigilance, and good practices. Their reference leans more towards the rules of good practices. Technical staff, engineers, and technicians talk about standard, components, design, waiting times, and breakdown times. These people are more sensitive to the procedures and technical characteristics of equipment and materials. Finally, the administrative staff uses more the terms performance, reference, cost, and organization. The regulatory texts of the Ministry of Health, and the labor legislation remain most important documentation for them (Chougrani & Ali, 2011).

Hence, the need for the involvement and the participation of all health professionals and stakeholders in defining the appropriate quality model to be followed. In fact, A. Benachi confirms that the lack of training and involvement of healthcare providers was the real reason for the failure of the quality approach in the Algerian private hospitals (Benaichi, 2019).

Notwithstanding the differences mentioned, the managerial literature underlines the strong contributions of quality management to hospital organizations. It enables change management (Chaouati, 2017), support for the hospital's strategic vision (Perissino, 2002), productivity improvement(Barouch, 2018), efficient dysfunctions management and quality of care continuous improvement (Eve & Sprimont, 2013) while guaranteeing satisfaction for all users and hospital stakeholders (Barouch, 2018).

3. Design and methods

The following study is a satisfaction survey that took place at the NIO in Rabat from March 8th,2021 to July 15th, 2021.

The question sheet was drawn up on the basis of a literature review targeting studies of satisfaction with the quality approach implemented in hospitals. The model which is best suited for the Moroccan context is the Donabedian model, which allows users to analyze the inputs, processes and outcomes that interact with each other in order to have a successful quality approach in the health sector (Donabedian, 1983).

The questionnaire was validated by NIO General Director as well as the NIO quality unit. Considering the health precautions related to Covid 19, the NIO director opted for sending questionnaires online instead of a having a survey with observers on site. Consequently, a meeting was organized with the NIO nursing direction who took care of mobilizing the target population that will participate in this study.

The sampling technique adopted in this study is the non-probability one with a reasoned choice for the departments involved in the quality approach. According to this, out of 10 departments engaged, we chose four ones: two departments have started the quality process in 2018 namely

the medical oncology hospitalization unit and the digestive oncological surgery unit. The two others have started in 2020 namely the gyneco-mammary surgery unit and the medical oncology- day hospital.

The data was collected via Google Forms and was processed by Microsoft Excel for the graphics development. IBM SPSS software was used for correlation tests.

The questionnaire was sent to all healthcare providers in these four services, i.e. a staff of 68 and we received 47 responses, i.e. a response rate of 69,11%. See more details in table 1.

Table 1. Characteristics of data sources

Department	**Number of healthcare providers per department**	**Number of healthcare providers that answered**	**Percentage of respondents**
Medical oncology-Day hospital	16	10	62,5%
Medical oncology-Hospitalization	20	17	85%
Gynecomammary surgery	10	03	30%
Digestive oncological surgery	22	17	77,27%
Total	**68**	**47**	**69,11%**

The sources of information are also made up of administrative documents, progress reports, and regular monitoring of quality circles. Noting that the researcher is already intervening in the process because since 2018 and until 2021, we carry out supervision missions coupled with quality management missions in this establishment. This posture inscribes us in a constructivist epistemological paradigm(Berger & Luckmann, 2018).

The documents used included the NIO establishment project, quality activity reports, the unit quality manual, and the NIO quality audit report.

4. Results

The descriptive analysis of the respondents shows the following: 66% are females and 34% are males. As far as age groups are concerned, 80,9% of them belong to the age group that is between 18 and 35 while 14,9% belong to the one between the ages of 36 and 50. A third group of people aged 51 years old and over forms a percentage of 4,3%.

The participant's profiles are described in the following percentages: 68% are nurses, 19,2% are doctors, and 12,8% are supervisors. See more details in table 2.

Table 2. Characteristics of respondents

Gender			
		Frequency	Percentage
	Male	16	34,0
	Female	31	66,0
	Total	47	100
Profile			
	Titular doctor	2	4,3
	Resident doctor	7	14,9
	Head nurse	5	10,6
	Nurse	27	57,4
	Supervisor nurse	6	12,8
	Total	47	100,0
Age			
	18 - 35	38	80,8
	36 - 50	7	14,9
	51 and over	2	4,3
	Total	47	100,0

The results are described in the following paragraphs and concerns these aspects: global strategy, inputs, process, and outputs of the quality approach implementation.

4.1. Global strategy

As shown in Figure 2, 49% of the respondents are satisfied with the global strategy of the quality approach implementation at the NIO and 34% say that they are very satisfied.

Furthermore, 87% of respondents find that it is adapted to the particularities of the hospital context and respects the participatory approach principles, noting that at least two referents per department were involved during the strategic preparation meetings which has significantly increased their adherence to the project as stakeholders.

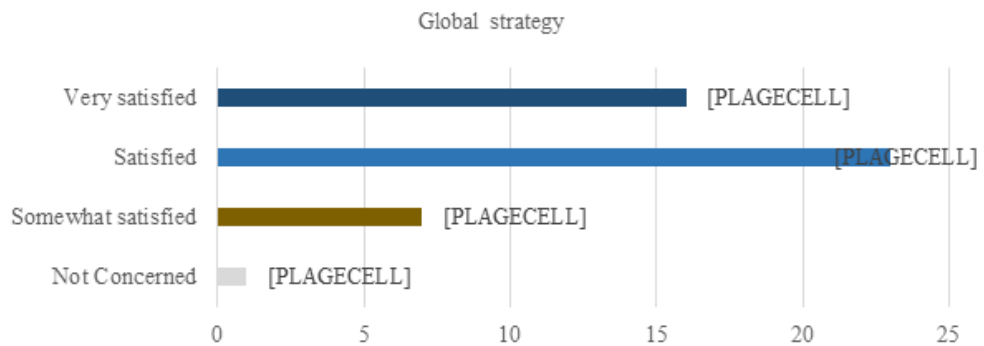

Figure 2. Healthcare provider's satisfaction with the overall strategy for the quality approach implementation

In order to verify this result, we used the chi-square test of independence between the following variables: "How do you find the staff awareness and strategic meetings"? and "Has your department set up quality circles"? The outcomes of the test were significant $p<0.001$. Therefore, it can be concluded that people who are satisfied with the staff information and the awareness meetings, before the project implementation, have succeeded in setting up quality circles in their departments.

4.2. Inputs

Questions related to the inputs for the quality approach implementation revealed that almost half of respondents were satisfied with the resources deployed, Figure 3.

Noting that financial resources obtained the lowest percentage of satisfaction which is 43%. This is due to the lack of the supervisory authority commitment, which results in an inability on its part to define a clear strategy for implementing quality in public hospitals using a comprehensive approach to budgeting. We should mention that the cost of the project is fully supported by Lalla Salma Foundation.

The information resources applied to training healthcare providers on quality, and coaching and supporting quality circles obtained a high percentage of satisfaction 55%, which sheds more light on the important role of staff training before starting a project at hospitals.

As it was used, the chi-square test between the variables "Did you benefit from the training?" and "Has your department set up quality circles?" was very significant $p<0.001$. As a consequence, we can conclude that people who have followed quality management training have indeed

set up quality circles in their departments.

It should be noted that the hospital has already a quality control unit that employs three people. However, the lack of funding had a potential risk that negatively affected the project, the reason why Lalla Salma Foundation stepped in to make sure that both expertise and funding were provided.

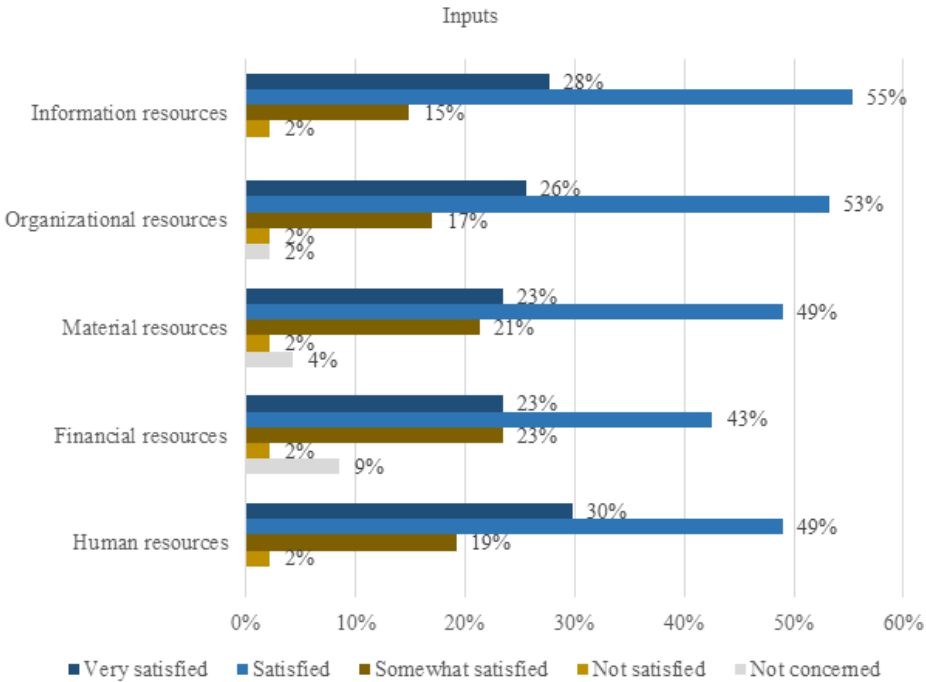

Figure 3. Healthcare provider's satisfaction with the required inputs for the quality approach implementation

4.3. Process

The setting up of the process of the quality approach has gone through several stages: a strategic preparation phase that involves administrative and clinical leaders whose task is to design a quality model tailored to the hospital's specific needs, awareness and information meetings with staff, adequate training before launching the projects, quality management training, setting up quality circles with scheduled regular meeting, and plenary follow-up meetings as well as support and coaching sessions.

As shown in Figure 4, there is an overall satisfaction with the above mentioned stages.

Regarding the quality circles, 82% of respondents confirm that having weekly meetings to assess the quality circles are the most effective tool because they offer opportunities for multidisciplinary meetings to solve any problems that may arise.

This was also verified by the chi-square test between the variables of "quality circles weekly meetings" and "results in group dynamics", which was significant $p<0.01$ so people who are satisfied with the quality circles weekly meetings are also satisfied with the positive results in group dynamics.

Noting that the quality circles refer to a working method that appeared in Japan in the early 1960s and in Europe around the 1980s. It consists of bringing together a group of employees of 4 to 15, regularly, in order to discuss the problems that arise

within their departments. These sessions, led by a moderator, serve to open a constructive debate and an exchange of ideas to analyze, diagnose and decide on the best solutions to adopt.

Meanwhile, 38% said that they encountered some difficulties, mainly ones related to the motivation of the participants and to the organizational approach to work.

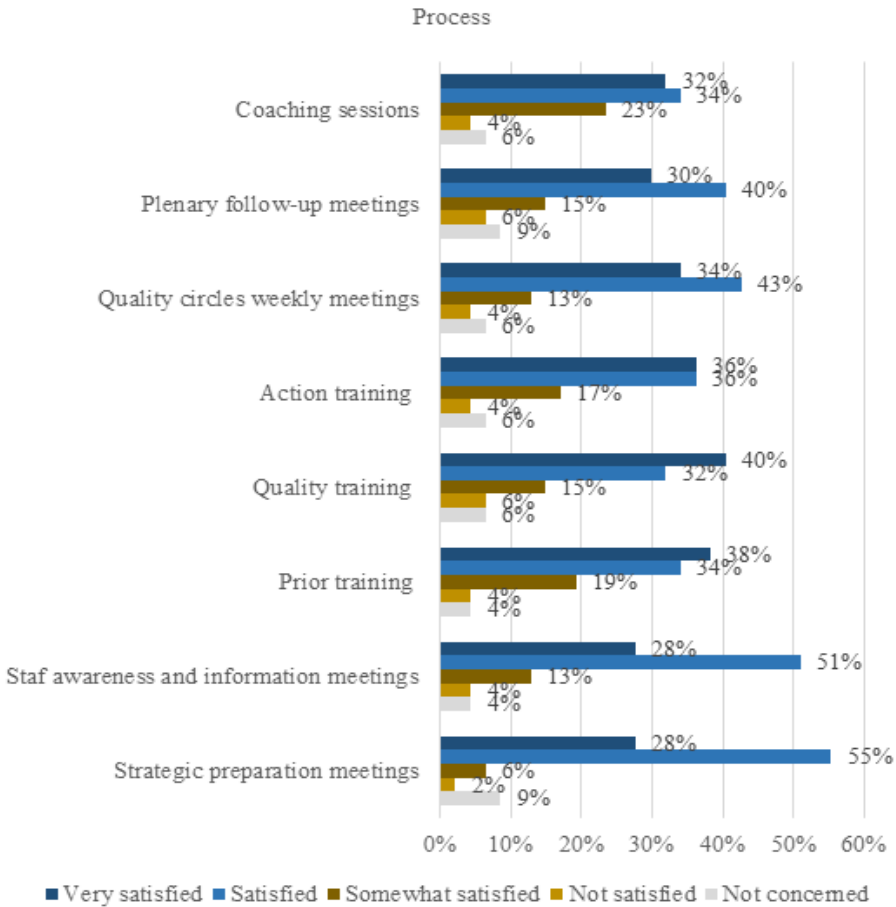

Figure 4. Healthcare provider's satisfaction with the process for the quality approach implementation

4.4. Output

The staff viewed the quality approach as very productive at all levels, Figure 5.

By comparing the "very satisfied" staff responses, we can order the results as follows:

1) patient outcomes which refer to the results on the patients and their families satisfaction with the quality of care offered, on communication with healthcare providers, and the quality of the procedures in place; 2) results on staff practices which refers to changes in terms of improving skills and adopting positive attitudes; 3) results on service issues since the quality circles have enabled the resolution of several departmental problems; 4) results on group dynamics which refer to the

improvement of interpersonal relations, conditions, and atmosphere at work .

In addition, 96% of respondents recommended that other departments and other public hospitals implement the quality approach.

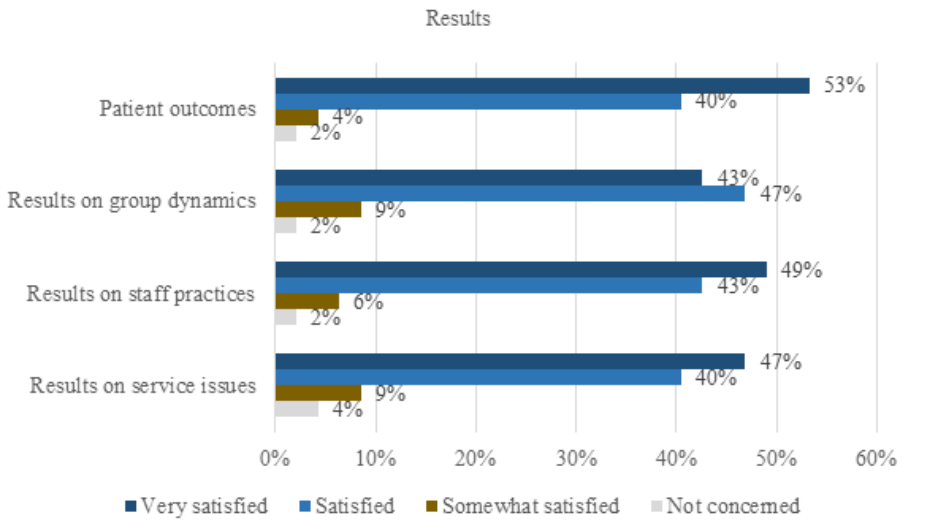

Figure 5. Healthcare provider's satisfaction with the results for the quality approach implementation

5. Discussion

This study's goal is to evaluate the healthcare provider's level of satisfaction with the quality approach implemented in their various departments. This would be achieved through the implementation of comprehensive standards to the different stages of all quality procedures: examples of such phases would be the global strategy, the inputs, the process and the outputs.

As far as the global strategy is concerned, the results highlighted that the healthcare providers are satisfied and found that the strategy suited to the hospital context. It must be noted that the strategy was designed in full consultation with the clinical and administrative representatives of each department, which has significantly increased their adherence to the project as stakeholders.

This is confirmed by A.Benachi who insists on the healthcare provider's information, and participation and involvement to succeed in quality projects (Benaichi, 2019). Moreover, the literature review has shown us that all the quality projects which were unilateral or which came from the hospital administration without any staff involvement were doomed to failure. As an example, Ibn Sina specialty hospital, which even with the certification of some of its departments, has not recorded any improvement in terms of interpersonal communication and group dynamics, and stopped the quality approach once the certification has been acquired. However, the successful quality approach aims rather at the establishment of a continuous quality culture, and the certification is only a tool, not a goal (Salhi, 2014).

When asked about the resources deployed to successfully set up the project, healthcare providers are generally satisfied, especially

when the informational and organizational resources are considered. This was well detailed in the reports of the quality circles within each department where they mention the importance of the training sessions as well as the strategic and practical organizational meetings.

In fact, before the project kick off, several strategic meetings were organized to define the quality model best suited to the NIO particularities, followed by staff awareness and information meetings on the quality approach importance in the health sector. Without forgetting the importance of the training sessions organized for the staff that concerned quality management, internal and clinical audit techniques, the development of indicators, planning, conflict management, group dynamics and other aspects. At the end of each cycle, participants obtain diplomas in quality management which increases their level of motivation.

On the other hand, the respondents were not very satisfied with the financial and material resources which is due to the non-commitment of the supervisory bodies in the quality projects financing. Respondents also confirmed that without Lalla Salma Foundation financial support, the project could not have been successful: to quote the head of the nursing department at the NIO:" quality is not yet a priority in our public hospitals". These problems of funding and the lack of commitment on the part of strategic bodies have always been the source of the quality projects failure and non-sustainability in public hospitals (Barouch, 2018).

When questioned about the implementation process, respondents were generally satisfied with the tools put in place, especially strategic preparation meetings, staff awareness, and information sessions. Furthermore,82% of respondents confirm that the quality circles weekly meetings are the most effective tool, because they offer opportunities for multidisciplinary meetings to resolve any problems that may arise. This finding was equally demonstrated in quality studies(Chaouati, 2017).

The benefits of quality circles on improving communication between team members and resolving service issues have effectively encouraged the NIO departments to increasingly set up quality circles. In fact, the quality unit report shows that we have gone from 06 quality circles in 2018 to 24 quality circles in 2021.

We cannot, however, overlook some difficulties linked mainly to the motivation of healthcare providers and the organization of work in a hospital environment which weighs heavily on the healthcare providers and negatively impacts their motivation for any innovative project. S.H-Villeneuve confirms this observation by specifying that the public hospitals' organizational context can be a real obstacle to the success of quality projects (Hayo-Villeneuve, 2017).

Another major organizational problem is the low presence of quality control units within hospitals. This is due to the lack of a clear vision and a concrete definition of the quality control units' whose responsibilities are defined as managing and supervising quality projects and close monitoring of the different teams.

Noting that our posture as an intervening researcher allows us to confirm that, at the start of the project, the NIO quality unit collaborated in a very limited and timid way. However, over time and considering the quality project continues and gives convincing results, the quality unit began to get more and more involved. The NIO director has just recruited another person in 2021 to strengthen the quality unit and to reinforce the team.

As far as the quality approach results are concerned, the respondents were pleasantly surprised by the quality benefits, particularly in terms of patient satisfaction, group dynamics as well as the staff practice and attitudes change, which prompted them to recommend the generalization of the

quality approach in all public hospitals. This was also shown in a study on the perceptions of patients and their families towards the NIO, which showed high user satisfaction with the quality of care and the positive staff attitude(Sadik et al., 2020). Thus, a gyneco-mammary block nurse commented: "The implementation of quality circles depends on the will of all the actors concerned and say: "When we want we can". The motivation, the improvement of working conditions, the communication and the fact of being a winner will encourage the staff to set up other quality improvement goals.

6. Conclusion

The quality approach implementation in Moroccan public hospitals is a major challenge for improving access, safety, quality, and performance in health care provision. Faced with the increasingly demanding expectations of the health system users and the universal health recommendations, the development of a national health system in accordance with international quality standards is becoming a challenge for the Moroccan health system, hence the importance of implementing a quality approach adapted to each hospital's context and supported by healthcare providers.

The present work is a study of the healthcare provider's level of satisfaction with the quality approach implemented in a public hospital which is the National Institute of Oncology (Morocco) as a case study.

It was carried out based on a large literature review including scientific articles and chapters in a few books related to hospital organization, a satisfaction survey among healthcare providers through an online questionnaire as well as research documentary in the documents and report of the NIO administration and quality unit.

The literature review carried out in this work has enabled us to confirm that in a very complex organizational environment, in particular the public hospital with all its financial, organizational and relational issues, the perception as well as the healthcare provider's level of satisfaction towards the quality of care is very divergent and varies from one body to another. Other studies have enabled us to shed light on all the factors that block the quality approaches success in the Moroccan public hospital environment and to propose possible improvements that can guarantee the sustainability of quality procedures in public hospitals.

The main factors of quality approaches failure detected by our research are: strategic actor's insufficient involvement, insufficient involvement of staff in defining the approach, shortage and ineffective management of human resources, weak commitment of hospital top management, insufficient training activities, and lack of motivation mechanisms and support measures in Moroccan public hospitals.

We have also emphasized the very important quality unit's role as a catalyst for quality approaches at public hospitals which highlights the need and the importance of quality units training in all healthcare structures.

The documentary research as well as our position as a researcher have shown that the National Institute of Oncology, our case study, took into consideration the achievements and the weak points of previous experiences in the public sector and adopted a gradual and participatory approach by involving the staff from the definition of the quality model to the monitoring of the results. As a consequence, the NIO, with the support of Lalla Salma Foundation, has focused on the training of human resources, and their continuous motivation as well as the regular teams support through coaching sessions and technical and psychological support, which

justifies the success of the approach adopted on all levels.

The results of the quality audit organized by the NIO in June 2021 showed progress in terms of production indicators namely the rate of infections in the digestive oncology surgery department, which changed from 30% in 2018 to 4.5% in 2021, the times for receiving chemotherapy cures in medical oncology departments also fell from 1 to 2 hours late in 2019 to less than an hour in 2021, with a reduction in the number of patients with shock related to chemotherapy from 336 patients in 2019 to 38 patients in 2021.

Data from the satisfaction survey carried out as a part of this work enabled us to demonstrate that the healthcare providers are generally satisfied with the overall strategy, the inputs of the project which refers to all the means put in place to make the project a success, whether financial, logistical, human, information and organizational, the process of setting up the project which includes all the steps followed for the quality approach implementation at NIO, namely training, meetings, audits, studies, etc; and finally the project outputs which refer to the results of the quality approach on all levels such as patient outcomes , change on staff practices, and results on service issues and on group dynamics

However, some inadequacy issues in organizational aspects was noted such as the low presence of the quality unit in the hospital, and the lack of the strategic stakeholders' commitment at the level of the supervisory body which is the Ministry of Health, in particular for the quality activities financing and the support of certain unmotivated teams.

From these data, we have proposed recommendations and essential guidelines for the quality approaches success and sustainability in the public hospitals, namely the development of a quality policy and governance bodies, the strategic stakeholders' involvement, the hospital leadership reinforcement, the staff involvement, the implementation of motivation mechanisms such as continuous training, prizes and merit bonuses.

All these points are essential to the quality approaches success in Moroccan public hospitals which try to regain the confidence of citizens and patients, and to improve their services, their practices and their capacities to face the various challenges, issues and risks such as the serious repercussions of the current Covid-19 pandemic which has upset the public health system. Noting that public hospitals in Morocco suffers from the absence of a quality culture, the insufficiency of procedures and care protocols, and the shortage of human resources overwhelmed by the strong growing demand of the poor population which generally leads to burn out and staff demotivation.

To overcome these problems, a quality approach implementation, especially the establishment of a continuous improvement culture seems to be a priority for the Moroccan public healthcare system.

To conclude, we can advance that the model adopted at the National Institute of Oncology (Morocco) has been implemented in another oncology center named "The Regional Oncology Center of Beni Mellal" which has begun to achieve tangible results impacting positively the patients' quality of care and working conditions. Its generalization in all oncological centers in Morocco is dependent on large-scale validation studies.

Acknowledgements: This study could not have been carried out without the National Institute of Oncology staff collaboration.

Limitations: Although our research focused on one oncology center with a small sample size, it opened up the prospect to conduct further large-scale studies that will allow the generalization of the model to all Moroccan public oncology centers.

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Imane El Haouachim
Man-society-education" Doctoral study center, Faculty of Educational Sciences. Mohammed V University,
Rabat,
Morocco
imane_elhaouachim@um5.ac.ma
ORCID 0000-0002-5318-6238

Kaoutara El Omari
Faculty of Educational Sciences. Mohammed V University,
Rabat,
Morocco
kaoutarfes@gmail.com

Maria Bennani
Lalla Salma Foundation – Cancer Prevention and Treatment,
Rabat,
Morocco
maria.bennani@flsc.ma
ORCID 0000-0002-6557-6444

Rachid Bekkali
Lalla Salma Foundation – Cancer Prevention and Treatment,
Rabat,
Morocco
rachid.bekkali@flsc.ma
ORCID 0000-0002-6046-3803